

## CLAIMS

1. A sheet material identifying apparatus for identifying the kind of a sheet material, comprising:

an adjusting assembly for dehumidifying or  
5 humidifying a predetermined region of the sheet material and adjusting the moisture content of the predetermined region;

an external force applying means for applying an external force to the predetermined region of the  
10 sheet material whose moisture content is adjusted; and

a detecting means for detecting the external force propagated through the sheet while the external force is applied by the external force applying  
15 means; wherein

an external force is applied to the predetermined region whose moisture content is adjusted through the adjusting assembly by the external force applying means and the kind of a sheet  
20 material is identified in accordance with the external force propagated through the sheet detected by the detecting means.

2. The sheet material identifying apparatus according to claim 1, wherein

25 the adjusting assembly is a heating mechanism.

3. The sheet material identifying apparatus according to claim 2, wherein

the heating mechanism is a fixing device in an electronic photographing apparatus.

4. The sheet material identifying apparatus according to claim 2, wherein

5 the heating mechanism is a transfer assembly in a heat transfer printer.

5. The sheet material identifying apparatus according to claim 1, wherein

the adjusting assembly is a humidifying  
10 mechanism.

6. The sheet material identifying apparatus according to claim 5, wherein

the humidifying mechanism is an ink discharging mechanism (print head) in an ink jet printer.

15 7. The sheet material identifying apparatus according to claim 1, which further comprises

an identifying means for identifying the kind of a sheet material in accordance with the external force detected by the detecting means, wherein

20 the identifying means identifies the kind of the sheet material by comparing the external force with a table previously storing the external forces and the kinds of sheet materials corresponding to the external forces.

25 8. The sheet material identifying apparatus according to claim 1, which further comprises

a moisture content detecting means for

detecting the moisture content of the sheet material,  
wherein the moisture content detecting means controls  
the adjusting assembly so as to adjust the moisture  
content of the predetermined region of the sheet  
5 material in accordance with a moisture content  
detection result by the moisture content detecting  
means.

9. The sheet material identifying apparatus  
according to claim 1, wherein  
10 the external force to be applied to the  
predetermined region by the external force applying  
means is an impact force or vibration.

10. A sheet treating apparatus comprising the  
sheet material identifying apparatus of claim 1,  
15 wherein

a sheet is treated in accordance with the kind  
of the sheet material identified by the sheet  
material identifying apparatus.

11. A sheet material identifying method for  
20 identifying the kind of a sheet material, comprising:

a moisture content adjusting step of  
dehumidifying or humidifying a predetermined region  
of the sheet material to adjust the moisture content  
of the predetermined region;

25 an external force applying step of applying an  
external force to the predetermined region of the  
sheet material whose moisture content is adjusted by

an external force applying means;

an external force detecting step of detecting the applied external force propagated through the sheet; and

- 5 an identifying step of identifying the kind of a sheet material in accordance with the detected external force after the moisture content of the predetermined region is adjusted so as to be kept in a predetermined range.